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10/617,308	07/10/2003	Denis E. Hassick	7502 CO2	3587
49459	7590	11/27/2007		
NALCO COMPANY 1601 W. DIEHL ROAD NAPERVILLE, IL 60563-1198			EXAMINER METZMAIER, DANIEL S	
			ART UNIT	PAPER NUMBER
			1796	
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			11/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/617,308

**Applicant(s)**

HASSICK ET AL.

**Examiner**

Daniel S. Metzmaier

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Claim 51 is pending.

#### ***Claim interpretation***

1. the claims require a combination of concentrated solutions of ferric chloride, phosphoric acid, and aluminum chlorohydrate, optionally in combination with water and/or polymeric coagulants EPI-DMA polyamine or the cationic polymer p-DMDAAC. Since the amount of the concentrates and the water are unspecified, the concentrations only limit the upper limit of ferric chloride, phosphoric acid, and aluminum chlorohydrate in the compositions and read on any concentrations of said materials above zero up to the parts of said concentrated values.

Polymeric coagulants EPI-DMA polyamine or the cationic polymer p-DMDAAC are optional and thus not required.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 51 is rejected under 35 U.S.C. 102(b) as being anticipated by Derwent Abstract, AN 1983-29271K, corresponding to SU 928034 B to Chitinsk Poly. Derwent Abstract AN 1983-29271K discloses a composition for treating surfaces for anti-dusting comprising phosphoric acid,  $\text{FeCl}_3$  and  $\text{AlCl}_3$  among other ingredients. Applicants'

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claim does not exclude the other salts. The concentrations inherently read on those claimed.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Waldmann, US 4,566,986. Waldmann '986 (abstract; column 5, lines 28-36; column 6, lines 10 et seq; columns 7 and 8; column 10, lines 31-49; column 11, lines 3-9 and 15-24; examples and claims) discloses inorganic reaction products of iron and/or aluminum salts.

Waldmann '986 differs from the claims in the characterization of the materials as the claimed product-by-process limitations and an exemplified combination as claimed.

Waldmann '986 (column 10, lines 31-49) teaches the use of phosphorous compounds including phosphoric acid, phosphorous acid, and mono-and dibasic phosphate salts which act as good catalyst and stabilizing agents for the reactions. Waldmann '986 column 11, lines 3-9 and 15-24) teach aluminum hydroxy chlorides are major intermediates of the product forming reactions. Waldmann '986 (examples) sets forth basic aluminum chloride structures, which when defined in terms of 2 equivalents of  $\text{Al}^{3+}$  provide the remaining (OH) and Cl equivalents within the claimed ranges. See example II (column 12, lines 57) as an example, which discloses  $\text{Al}_4(\text{OH})_4\text{Cl}_8$ . While not clearly the same species, said disclosed species is structurally related to those claimed and would be expected to produce the same or related products. Waldmann '986 further teaches the products may further be diluted with phosphoric acid.

Waldmann '986 further defines concentrations for the various species. Merely modifying process conditions such as concentration that are noted to be product determining does not involve an inventive step absent a showing of criticality.

It would have been obvious to one of ordinary skilled in the art at the time of applicants invention to employ the phosphorous compound to catalyze and/or stabilize the aluminum and iron reaction in forming the flocculating agents of the Waldmann '986 reference as taught therein. The claimed physical property of claim 18 would have been inherent to the compositions employing a phosphorous compound as a catalyst and/or stabilize the aluminum and iron flocculating agent compositions of Waldmann '986.

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7. Claims 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Waldmann, US 4,566,986, as applied to claims 40-60 above, and further in view of Kuo et al., US 4,362,643. Waldmann '986 discloses compositions as set forth above.

Waldmann '986 differs from the claims in the particular aluminum compounds of aluminum hydroxy chloride (basic aluminum chloride) with  $\text{FeCl}_3$ .

Kuo et al ( abstract, examples and claims) teaches flocculating agents made by the combination of basic aluminum chloride with  $\text{FeCl}_3$ . Kuo et al differs in the further addition of a phosphorous compound.

It would have been obvious to one of ordinary skilled in the art at the time of applicants invention to employ the art known reactant combination in forming the compositions of Waldmann '986 with a phosphorous catalyst and/or stabilizing agent. It would have been obvious to one of ordinary skilled in the art at the time of applicants invention to employ the phosphorous compound to catalyze and/or stabilize the reaction of Kuo et al as taught in the Waldmann '986 reference.

8. Claims 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Waldmann, US 4,566,986, in view of Kuo et al., US 4,362,643, as applied to claims 46-60 above, and further in view of Hassick et al., US 4,800,039, Rose et al., US 4,655,934, and Waldmann, US 4,902,779.

Waldmann '986 and Waldmann '986 in view of Kuo et al disclose the compositions as set forth in the preceding prior art rejections.

Waldmann '986 in view of Kuo et al differ from claims 63 and 64 in the combination of the inorganic flocculating agents with a polymeric flocculating agent, p-DMDAAC or EPI-DMA polyamine.

Waldmann '986 (column 3, lines 26 et seq) teaches the conventional use of aluminum chloride as aluminum hydroxy chlorides which are commercially available inorganic flocculating agents. Waldmann '986 (column 4, lines 31-45) characterizes patentees compositions as improvements over the conventional products.

Hassick et al (columns 2, 3, and examples) teaches the combination of aluminum chlorohydrate and certain cation polymeric flocculants to be synergistic and includes as the cationic polymer p-DMDAAC.

These references are combinable because they teach flocculating agents and compositions. It would have been obvious to one of ordinary skilled in the art at the time of applicants invention to employ the cationic polymer p-DMDAAC in combination with the Waldmann '986 inorganic flocculating compositions since the prior art recognizes synergism with other related inorganic flocculating agents. The ordinary skilled artisan at the time of the invention would have expected at least an additive result based on the combination.

Rose et al (column 2, lines 10 et seq and examples; particularly example 6) teaches it is conventional to add the combination of aluminum hydroxy chlorides and EPI-DMA polyamine and an alkaline earth metal salt as flocculating compositions. Rose et al makes no distinction between the different types of calcium salts.

These references are combinable because they teach flocculating agents and compositions. It would have been obvious to one of ordinary skilled in the art at the time of applicants invention to employ the polymer EPI-DMA polyamine and  $\text{CaCl}_2$  in combination with the Waldmann '986 inorganic flocculating compositions since the prior art recognizes their advantageous combination with other related inorganic flocculating agents.

Waldmann '779 (claims) teaches water soluble inorganic-organic alloy polymer adduct compositions comprising inorganic flocculants which are the same or substantially the same as those disclosed in Waldmann '986 in combination with cationic polymers. Waldmann '779 (column 18, example 21, Table II) specifically discloses the combination of cationic polymers and alkaline earth metal salts.

These references are combinable because they teach flocculating agents and compositions. It would have been obvious to one of ordinary skilled in the art at the time of applicants invention to employ inorganic-organic polymer adducts or Waldmann '986 inorganic flocculating compositions since the prior art recognizes their advantageous combination of polymer adduct and related inorganic flocculating agents.

Furthermore, it is generally *prima facie* obvious to use in combination two or more ingredients that have previously been used separately for the same purpose in order to form a third composition useful for that same purpose. In re Kerkhoven, 626 F.2d 846, 205 USPQ 1069 (CCPA 1980); In re Pinten, 459 F.2d 1053, 173 USPQ 801 (CCPA 1972); In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971); In re Crockett, 279 F.2d 274, 126 USPQ 186 (CCPA 1960). As stated in Kerkhoven and Crockett,



the idea of combining them flows logically from their having been individually taught in the prior art.

9. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boussey et al, US 5,759,401, in view of Hassick et al., US 4,800,039, Rose et al., US 4,655,934, and Waldmann, US 4,902,779.

Boussey et al (column 3, line 37 et seq) discloses  $AlCl_3$ ,  $FeCl_3$  and aluminum phosphates as coagulating agents. Boussey et al (column 3, lines 56-57 and claim 60 explicitly disclose the use of two or more of the coagulating agents.

Boussey et al differs from the claim in the at least three coagulant combination claimed.

Boussey et al teaches all the components of applicants' blend as coagulants and teaches the use of mixtures of two or more coagulants. Boussey et al (column 3, lines 58-60) teaches the further combination of organic polymers such as polyacrylamides with the inorganic coagulating agents. It would have been obvious to one of ordinary skill in the art at the time of applicants invention to employ a mixture of the art known coagulants as taught in the Boussey et al reference.

Boussey et al differs from claim 62 in the particular aluminum hydrogen phosphate hydrate employed in the blend.

Boussey et al differs from claims 63-66 in the combination of the inorganic flocculating agents with a polymeric flocculating agent, p-DMDAAC or EPI-DMA polyamine.

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Hassick et al (columns 2, 3, and examples) teaches the combination of aluminum chlorohydrate and certain cation polymeric flocculants to be synergistic and includes as the cationic polymer p-DMDAAC.

These references are combinable because they teach flocculating agents and compositions. It would have been obvious to one of ordinary skilled in the art at the time of applicants invention to employ the cationic polymer p-DMDAAC in combination with the Waldmann '986 inorganic flocculating compositions since the prior art recognizes synergism with other related inorganic flocculating agents. The ordinary skilled artisan at the time of the invention would have expected at least an additive result based on the combination.

Rose et al (column 2, lines 10 et seq and examples; particularly example 6) teaches it is conventional to add the combination of aluminum hydroxy chlorides and EPI-DMA polyamine and an alkaline earth metal salt as flocculating compositions. Rose et al makes no distinction between the different types of calcium salts.

These references are combinable because they teach flocculating agents and compositions. It would have been obvious to one of ordinary skilled in the art at the time of applicants invention to employ the polymer EPI-DMA polyamine and  $\text{CaCl}_2$  in combination with the Waldmann '986 inorganic flocculating compositions since the prior art recognizes their advantageous combination with other related inorganic flocculating agents.

Waldmann '779 (claims) teaches water soluble inorganic-organic alloy polymer adduct compositions comprising inorganic flocculants which are the same or

substantially the same as those disclosed in Waldmann '986 in combination with cationic polymers.

These references are combinable because they teach flocculating agents and compositions. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to employ inorganic-organic polymer adducts or Waldmann '986 inorganic flocculating compositions since the prior art recognizes their advantageous combination of polymer adduct and related inorganic flocculating agents.

Furthermore, it is generally *prima facie* obvious to use in combination two or more ingredients that have previously been used separately for the same purpose in order to form a third composition useful for that same purpose. In re Kerkhoven, *supra*; In re Pinten, *supra*; In re Susi, *supra*; In re Crockett, *supra*. As stated in Kerkhoven and Crockett, the idea of combining them flows logically from their having been individually taught in the prior art.

### ***Response to Arguments***

10. Applicant's arguments with respect to claim 51 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

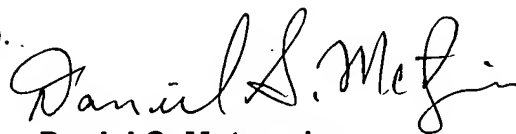
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, reading "Daniel S. Metzmaier". The signature is fluid and cursive, with the first name "Daniel" and last name "Metzmaier" clearly distinguishable.

**Daniel S. Metzmaier**  
**Primary Examiner**  
**Art Unit 1796**

DSM